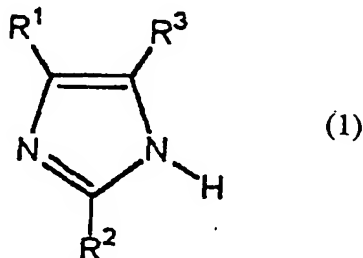


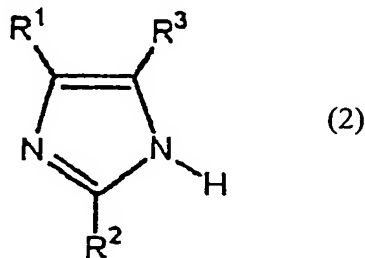
## CLAIMS

1. An acid-base mixture comprising a base component and an acid component, at least one of the base component and the acid component comprising at least two compounds, and the base component comprising at least one compound represented by chemical formula (1):



wherein  $R^1$ ,  $R^2$ , and  $R^3$  each represent a hydrogen atom or a hydrocarbon group having 1 to 20 carbon atoms, provided that at least one of them is a hydrocarbon group.

2. The acid-base mixture according to claim 1, wherein the base component comprises at least one compound represented by chemical formula (2):



wherein  $R^1$ ,  $R^2$ , and  $R^3$  each represent a hydrogen atom or a hydrocarbon group having 1 to 20 carbon atoms, provided that  $R^1$  and  $R^3$  are different.

3. The acid-base mixture according to claim 1 or 2, having a melting point of 120°C or lower or substantially no melting point.

4. The acid-base mixture according to any one of claims 1 to 3, being an equimolar mixture of the base component and the acid component.

5. The acid-base mixture according to any one of claims 1 to 4, being liquid at room temperature.

6. The acid-base mixture according to any one of claims 1 to 5, wherein at least one of the base components comprises 2-ethyl-4-methylimidazole.

7. The acid-base mixture according to any one of claims 1 to 5, wherein at least one of the base components comprises 4-methylimidazole.

5 8. The acid-base mixture according to any one of claims 1 to 5, wherein at least one of the base components comprises 2-ethylimidazole.

9. The acid-base mixture according to any one of claims 1 to 8, wherein at least one of the acid components comprises an acid structurally free from a fluorine atom.

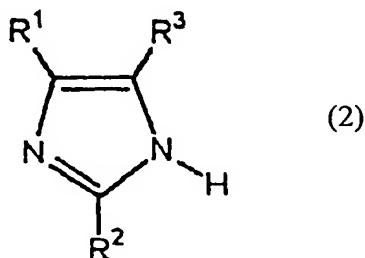
10 10. The acid-base mixture according to any one of claims 1 to 8, wherein at least one of the acid components comprises an inorganic acid.

11. The acid-base mixture according to claim 10, wherein at least one of the acid components comprises sulfuric acid or phosphoric acid.

12. The acid-base mixture according to any one of claims 1 to 11, being ion conductive.

15 13. The acid-base mixture according to any one of claims 1 to 12, being proton conductive.

14. An ion conductor comprising an acid-base mixture comprising a base component and an acid component, the base component comprising a base represented by chemical formula (2):



wherein  $R^1$ ,  $R^2$ , and  $R^3$  each represent a hydrogen atom or a hydrocarbon group having 1 to 20 carbon atoms, provided that  $R^1$  and  $R^3$  are different.

15. The ion conductor according to claim 14, wherein  $R^1$  in chemical formula (2) is a hydrocarbon group having 1 to 20 carbon atoms.

5 16. The ion conductor according to claim 15, wherein  $R^1$  in chemical formula (2) is a methyl group.

17. The ion conductor according to claim 15, wherein  $R^2$  in chemical formula (2) is a hydrocarbon group having 1 to 20 carbon atoms.

10 18. The ion conductor according to claim 17, wherein  $R^2$  in chemical formula (2) is an ethyl group.

19. The ion conductor according to any one of claims 14 to 18, wherein  $R^3$  in chemical formula (2) is a hydrogen atom.

20. The ion conductor according to claim 14, wherein the base component is 4-methylimidazole.

15 21. The ion conductor according to claim 14, wherein the base component is 2-ethyl-4-methylimidazole.

22. The ion conductor according to any one of claims 14 to 21, wherein the acid component is an acid structurally free from a fluorine atom.

20 23. The ion conductor according to any one of claims 14 to 21, wherein the acid component is an inorganic acid.

24. The ion conductor according to claim 23, wherein the inorganic acid is sulfuric acid.

25. The ion conductor according to any one of claims 14 to 24, being a proton conductor.